

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/090643 A2**

- (51) International Patent Classification<sup>7</sup>: **C25C 3/12**
- (21) International Application Number:  
PCT/IB2005/000797
- (22) International Filing Date: 18 March 2005 (18.03.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
PCT/IB2004/00886 18 March 2004 (18.03.2004) IB  
PCT/IB2004/001416 29 March 2004 (29.03.2004) IB
- (71) Applicant (for all designated States except US):  
**MOLTECH INVENT S.A.** [LU/LU]; 6, rue Adolphe  
Fisher, L-1520 Luxembourg (LU).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **DE NORA, Vittorio** [IT/CH]; Immeuble Fontanettes B, CH-3968 Veyras  
(CH). **NGUYEN, Thinh, T.** [CH/CH]; 165b, Rte du  
Grand-Lancy, CH-1213 Onex (CH).
- (74) Agent: **CRONIN, Brian**; c/o Moltech S.A., Quai du  
Mont-Blanc 21, CH-1201 Genève (CH).
- (81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— without international search report and to be republished  
upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: NON-CARBON ANODES

(57) Abstract: An anode for electrowinning of aluminium from alumina comprises a cobalt-containing metallic outer part that is covered with an integral oxide layer containing predominantly cobalt oxide CoO. The integral oxide layer can be formed by surface oxidation of cobalt from the metallic outer part before use.



**WO 2005/090643 A2**